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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,634	10/31/2003	Chris David Pylant	PLEX 2781000	3383

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EXAMINER

AZARIAN, SEYED H

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/698,634

Applicant(s)

PYLANT, CHRIS DAVID

Examiner

Seyed Azarian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 19 defines “ a computer program product for determining the extent of movement of an object. However, the claim does not define a “computer-readable medium”, or computer readable medium encoded with a computer program, such claimed computer programs product does not define any structural and functional interrelationships between the computer program and other claimed elements of a computer.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over DeCharms (U.S. patent 6,996,261) in view of Eppler (U.S. patent 6,819,739).

Regarding claim 1, DeCharms discloses an apparatus for determining the extent of movement of an object appearing within two or more images, comprising (column 9, lines 4-15, recording activity data (movement) and displaying images);

a first logic configured to classify one or more points in each of the images as either on-object or off-object (column 4, lines 44-57, computer executable logic is provided for selecting to achieve one or more regions of interest of a subject, also column 30, lines 34-46, determining one or more regions of interest);

a second logic configured to compare the classified points in order to determine those points for which the classification differs (column 4, lines 52-60, logic for comparing the calculated metrics from the plurality of behaviors).

However DeCharms discloses (column 39, lines 1-13, to measure an aggregate average level of activity from entire region of interest, or a spatial pattern of a activity at each voxel within the region of interest), but does not explicitly state its corresponding “third logic configured to aggregate those points for which the classification differs in order to quantify a measure of the movement of the object”. On the other hand Eppler teaches (column 3, lines 27-40, the apparatus comprises first logic, second logic and third logic and generates a moving pattern of spot on a target, which preferably correspond to a processor configured to execute a calibration algorithm. The third logic configured to calibrate the system using the empirical data and the analytically-driven calibration data).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify DeCharms invention according to the teaching of Eppler because it provides apparatus and method for calibration process, which performed in a relatively short amount of time and accuracy.

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Regarding claim 2, DeCharms discloses the apparatus of claim 1, wherein the first logic further comprises memory employable for the storage of at least one video frame (column 39, lines 44-53, storage device for retrieval).

Regarding claim 3, DeCharms discloses the apparatus of claim 1, further comprising an inverter coupled to the input of the first logic, the inverter configured to invert pixels before the pixels are conveyed to the frame comparison logic (column 15, line 38 through column 16, line 5, the logic for comparing comprises logic for computing one or more members of the group between two vectorized spatial patterns of physiological activity).

Regarding claim 4, DeCharms discloses the apparatus of claim 1, further comprising a memory for a mask coupled to the input of the first logic, the mask configured to be applied to at least one pixel before the at least one pixel is conveyed to the frame comparison logic (column 62, lines 32-44, process includes masking).

Regarding claim 5, DeCharms discloses the apparatus of claim 1, further comprising a threshold comparator coupled to the input of the first logic, the first logic configured to determine whether a value associated with at least one pixel is above or below a threshold value (column 65, line 65 through column 66, line 16, computing of changes above or below threshold).

Regarding claim 7, DeCharms discloses the apparatus of claim 1, further comprising an aggregator configured to accept an output of the first logic (column 39, lines 1-13, to measure an aggregate average level of activity from entire region of interest, or a spatial pattern of a activity at each voxel within the region of interest).

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Regarding claim 8, DeCharms discloses the apparatus of claim 7, further comprising a normalizer configured to divide an output of the aggregator by the total number of pixels in a second video frame associated with an image of a test animal (see claim 1, also column 63, lines 51-64, refer to normalizing).

Regarding claim 9, DeCharms discloses the apparatus of claim 1, wherein the memory for storing at least one video frame for processing by the frame comparison logic is at location externally to the first logic (column 39, lines 44-53, memory for storage).

Regarding claim 10, DeCharms discloses the apparatus of claim 1, wherein the second logic calculates a normalized ratio associated with the change of the status of pixels from a first video frame and the second video frame (see column 63, lines 51-64, refer to normalizing, also column 65, line 65 through column 66, line 16, computing of changes above or below threshold).

Regarding claim 11, DeCharms discloses a method for determining the extent of movement of an object appearing within two or more images, comprising: classifying each point in the images as either on-object or off-object to create classified images; and comparing one classified image to at least one other classified image to determine those areas for which the classification differs; measuring at least one neurological impulse, and correlating the determination of those areas for which the classification differs to the measurement of the at least one neurological impulse (see claim 1, and column 25, lines 45-55 neurological condition, also column 91, lines 32-50, brain pulses).

Regarding claim 14, DeCharms discloses the method of claim 12, further comprising removing details from the threshold image (column 60, line 59 through column 61, line 15, removing noises).

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Regarding claim 15, DeCharms discloses the method of claim 11, wherein the images are monochrome (column 79, lines 1-36, refer to color).

Regarding claim 16, DeCharms discloses the method of claim 11, wherein each of the images is represented as a finite number of digital picture elements (column 47, lines 17-28, number of images).

Regarding claim 18, DeCharms discloses the method of claim 17, further comprising correlating a centroid calculation to the time-stamped neurological impulses (see claim 11, also column 66, lines 18-42 computing centroid).

Regarding claim 19, DeCharms discloses a computer program product for determining the extent of movement of an object appearing within two or more images, the computer program product having a medium with a computer program embodied thereon, the computer program comprising: computer code for classifying each point in the images as either on-object or off-object to create classified images, and computer code for comparing one classified image to at least one other classified image to determine those areas for which the classification differs; computer code for measuring a plurality of neurological impulses (see claim 1 and 11, also column 4, lines 44-60, computer executable logic).

With regard to claims 6, 12 and 13, the arguments analogous to those presented above for claims 1, 4 and 5 are respectively applicable to claims 6, 12 and 13.

With regard to claims 17 and 20, the arguments analogous to those presented above for claims 1 and 11 are respectively applicable to claims 17 and 20.

Other prior art cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(U.S. patent 6,678,413) to Liang et al is cited for system and method for object identification and behavior characterization using video analysis.

(U.S. patent 6,850,252) to Hoffberg is cited for intelligent electronic appliance system and method.

(U.S. patent 6,985,172) to Rigney et al is cited for model-based incident detection system with motion classification.

(U.S. patent 6,972,677) to Coulthard is cited for monitoring system.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

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Status information about the PAIR system; see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seyed Azarian
Patent Examiner
Group Art Unit 2624
April 2, 2007

Seyed azarian